

Appl. No. 10/079,102
Amendment and/or Reply
to the FINAL Office Action of 14 September 2005

Page 2 of 8

Amendments to the Claims:

A listing of the entire set of pending claims (including amendments to the claims, if any) is submitted herewith per 37 CFR 1.121. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Previously Presented) An optomechanical system comprising:
 - a sphere adapted to contain an optical element;
 - a first set of curved surfaces in contact with the sphere; and
 - a second set of curved surfaces in contact with the sphere, opposed to the first set of curved surfaces,
 - a lid attached to a housing and adapted to apply a downward force upon the first set of curved surfaces, the sphere, and the second set of curved surfaces, and
 - the first and second set of curved surfaces so constructed, secured, and arranged such that the sphere has freedom for prescribed movement when required, but is otherwise securely held stationary.
2. (Original) The system of claim 1, wherein each member of the first set of curved surfaces contacts the sphere at approximately just one point, and each member of the second set of curved surfaces contacts the sphere at approximately just one point.
3. (Original) The system of claim 2, wherein each member of the first set of curved surfaces is a ball, and each member of the second set of curved surfaces is a ball.
4. (Previously Presented) The system of claim 3, wherein each ball of the first set of balls has a corresponding ball in the second set of balls, wherein each ball

Appl. No. 10/079,102
Amendment and/or Reply
to the FINAL Office Action of 14 September 2005

Page 3 of 8

in the first set applies a force to the sphere that is collinear with and opposite to a force that the corresponding ball in the second set applies to the sphere.

5. (Previously Presented) The system of claim 4, wherein the housing is adapted to receive the sphere, first and second set of balls.

6. (Cancelled).

7. (Previously Presented) The system of claim 3, wherein the sphere and each ball in the first and second set of balls are made of steel.

8. (Previously Presented) The system of claim 3, wherein each ball in the first set comprises a ceramic ball.

9. (Original) The system of claim 8, wherein each ball in the second set comprises a steel ball.

10. (Previously Presented) The system of claim 8, wherein each ball in the second set comprises a ceramic ball.

11. (Previously presented) The system of claim 1, wherein the sphere includes an opening adapted for insertion of an alignment tool for rotating the sphere while the first and second set of curved surfaces hold the sphere in position.

12. (Original) The system of claim 11, wherein the sphere and the first and second set of curved surfaces have finishes that permit smooth rotation of the sphere in response to forces applied via the alignment tool while the curved surfaces apply forces required for holding the sphere in alignment during normal use.

13. (Original) The system of claim 1, wherein the first set of curved surfaces

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**Appl. No. 10/079,102
Amendment and/or Reply
to the FINAL Office Action of 14 September 2005**

Page 4 of 8

comprises three curved surfaces and the second set of curved surfaces also comprises three curved surfaces.

14. (Original) The system of claim 13, where the first set of three curved surfaces comprises 3 balls and the second set of curved surfaces also comprises 3 balls.

15. (Previously presented) An optomechanical system comprising:

a sphere adapted for mounting an optical element in the sphere, the sphere having an opening shaped to receive an alignment tool and made of a magnetically attractive material;

a housing adapted to receive the sphere; and

a plurality of magnets attached to the housing and magnetically attracted to the sphere, the magnets so constructed and arranged in the housing such that the sphere has freedom for prescribed movement when required by overcoming the magnetic attraction between the sphere and the magnets, but is otherwise held stationary by the magnetic attraction.

16. (Cancelled)

17. (Previously presented) The system of claim 15, further comprising a cover attached to the housing.

18. (Original) The system of claim 17, further comprising a spring attached to the cover for applying a downward force upon the sphere.

19. (Previously Presented) The system of claim 1, wherein each member of the second set of curved surfaces is stationary.

20. (Previously Presented) The system of claim 19, wherein each member of the second set of curved surfaces is a ball.